***Movie Editor***: A movie editor who needs a computer to run *Avid Media Composer* (perpetual license) for video editing. She needs a monitor over 30”, and an external hard drive of 4 TB or more with Thunderbolt interface to store her data.

In the final report, each group should include the information as shown in the following table. Each software package has recommended ***system requirements***. Each group has to find the ***system requirements*** (e.g. types and versions of OS, processors speed, memory size, etc.) for the software the individual wants to run on their computer.

|  |  |  |  |
| --- | --- | --- | --- |
| **Group No./Name** |  | **Topic** |  |
| **Computer** Options | Option 1 (Budget) | Option 2 (Midrange) | Option 3 (Overkill) |
| Type (Desktop, Laptop, etc) | Desktop | Desktop | Desktop |
| Manufacturer(Dell,HP, etc) | HP | HP | HP |
| Model No. | **HP Z2 G8 Tower Workstation Desktop PC** #4A166UT#ABA | **HP Z6 G4 Tower Workstation** #7BG79UT#ABA | **HP Z6 G4 Tower Workstation** Customized |
| Processor (Cpu stats/name) | Intel® Core™ i7-11700 (2.5 GHz base frequency, up to 4.9 GHz with Intel® Turbo Boost Technology, 16 MB L3 cache, 8 cores) | Intel® Xeon® Silver 4208 (2.1 GHz base frequency, up to 3.2 GHz with Intel® Turbo Boost Technology, 11 MB cache, 8 cores) **Max Number of processors: 2** | 2 Intel® Xeon® Gold 6258R Processor (2.7 GHz, up to 4.0 GHz W/Boost, 38.5M MB cache, 2933MHz, 28 core, 205W) **Max Number of processors: 2** |
| Memory (stats/name) | 16 GB DDR4-3200 MHz non-ECC RAM (1 x 16 GB)  Memory Slots: 4 DIMM | 32 GB DDR4-2933 ECC MHz RAM (4 x 8 GB)  Memory Slots: 12 DIMM | 256 GB (8x32 GB) DDR4-2666 ECC Registered Memory (2 Processors)  Memory Slots: 12 DIMM |
| Storage (stats/name/type) | 512 GB HP Z Turbo Drive PCIe® M.2 SSD | HP SD 4 Media Card Reader (optional)  256 GB HP Z Turbo Drive PCIe® SSD | 2 256 GB (2 x 128 GB) Intel® Optane™ DC Persistent Memory Module NVDIMM  5 2 TB HP Z Turbo Drive M.2 PCIe TLC SSD  2 TB HP Z Turbo Drive M.2 PCIe TLC SSD  960 GB SATA-3 Enterprise 2.5" SSD  480 GB SATA Enterprise 2nd SSD  4 TB 7200 RPM SATA 3.5" Enterprise 3rd HDD  2 TB HP Z Turbo Drive QX310 SSD  2 2 TB 7200 RPM SATA 3.5" 4th HDD  Total storage: 23.952 TB |
| DVD (if applicaple) | N/A | HP 9.5 mm Slim DVD-Writer | Premium - 2x USB 3.1 Type-C; 2x USB 3.0 Type-A |
| Network (stats/name/type) | 1 RJ-45;  M.2 2230 slot for WLAN | 2 RJ-45 (1 GbE) | HP Dual Port 10GBase-T NIC Module |
| Graphics (gpu,/stats/name) | Integrated: Intel® UHD Graphics 750; Discrete: NVIDIA® T1000 (4 GB GDDR6 dedicated) | Discrete: NVIDIA® Quadro® RTX 4000 (8 GB GDDR6 dedicated) | 2 NVIDIA® Quadro® RTX™ 8000 (48 GB GDDR6, 4 x DisplayPort 1.4; USB-C) Graphics |
| Audio (type/stero,etc) | 1 universal audio jack;  1 audio-in; 1 audio-out;  Realtek-ALC3205-VA2-CG, 2.0W internal mono speaker | 1 headset connector  1 audio-in; 1 audio-out; | 1 headset connector  1 audio-in; 1 audio-out; |
| USB (version/stats/type) | 2 SuperSpeed USB Type-A 10Gbps signaling rate; 2 SuperSpeed Type-A USB 5Gbps signaling rate (1 charging); 2 SuperSpeed USB Type-A 10Gbps signaling rate; 1 SuperSpeed USB Type-A 5Gbps signaling rate; 3 USB Type-A 480Mbps signaling rate | 6 USB 3.1 Gen 1;  4 USB 3.1 (1 charging) | Premium - 2x USB 3.1 Type-C; 2x USB 3.0 Type-A |
| Battery (stats/type) | N/A | 1000 W internal power supply, up to 90% efficiency, active PFC | 1125W Chassis 100V/15AChange |
| OS (window, mac etc) | Windows 10 Pro 64 | Windows 10 Pro for Workstation 64 | Windows 10 Pro for Workstations |
| Software (what in there) | HP PC Hardware Diagnostics UEFI; HP Performance Advisor; HP Support Assistant; HP PC Hardware Diagnostics Windows; ZCentral Remote Boost; HP Desktop Support Utilities; HP Image Assistant; HP Notifications; My HP; HP QuickDrop | HP Performance Advisor; ZCentral Remote Boost  HP Performance Advisor; HP Remote Graphics Software (RGS) | HP Performance Advisor; ZCentral Remote Boost  HP Performance Advisor; HP Remote Graphics Software (RGS) |
| Special Feature (what cool) | Expandable to basically everything recommended by Avid | * Expandable and powerful. * 2 CPU slots | internal NVDIMM storage  * 2 CPU slots * 2 GPU slots * Lots and lots of storage   You are running a server that can do machine learning. |
| Review (how good) | N/A | 5/5 (2) | N/A |
| Reasons of Selection | It supports the most updated version of Avid. Tested by Avid | Already a little over kill this machine will run everything comfortably. It is also tested by Avid and is compatible with Avid media composer. | You are running a nuclear powerplant. The computer is also compatible with Avid media composer. |
| ***Computer Cost*** | $1,879.00 | $4,509.00 | $47,959.20 |
| **Comparison** | If we look at the budget model, the HP Z2 tower, it’s already really good. The entry level workstation is upgradable and supported by the most recent Avid Media Composer. What’s surprising however is that the machine is the minimum of the system requirements for Avid Media Composer. If we compare this machine to the medium-range machine, the HP Z6 tower, the Z6 is better in all categories. However, if we compared the Z6 to the customized Z8 it’s not even a comparison. The customized Z8 was just to test the limits of store-bought PCs. There is really no need to use up all the extension slots unless you are doing rocket science. The Z8 has more of everything; Two stronger CPUs, two stronger GPUs, and an overkill amount of storage. | | |
| **Conclusion** | Which one should you buy? Well, you don’t need the customized Z8 because at that point you should be doing cloud computing and renting GPU time, not spend 40k on a single system that you probably won’t be using to its full potential. Now which one should you buy: the budget or the mid-range? The answer to the question is really simple. If you can afford the Z6 without breaking your bank account, then buy the Z6. The Z6 has plenty of space for you to add additional computing power. For example, the Z6 can hold 2 CPUs but this model is only using one slot. If you are broke, then I would go for the budget computer. By no means is the Z2 bad; the Z2 also has plenty of room for you to expand. However, you must keep in mind that you are running on the minimum of Avid so if you are experiencing any slowness, please blame it on your bank account. | | |
| **(Monitor)** **Peripheral**  Name(s) (monitor,printer etc) | Monitor [BenQ SW321C PhotoVue](https://www.techradar.com/reviews/benq-sw321c-photovue) | | |
| **(Monitor)**  Peripheral Manufacturer | BenQ | | |
| **(Monitor)**  Peripheral Model No. | ‎SW321C | | |
| **(Monitor)**  Peripheral Features | * 32" In-Plane Switching (IPS) Panel * HDMI 2.0 | DisplayPort 1.4 | USB Type-C * 3840 x 2160 @ 60 Hz Native Resolution * 1300:1 Static Contrast Ratio * 250 cd/m² Brightness * 178°/178° Viewing Angles * 5 ms Response Time (GtG) * 10-Bit Support for 1.07 Billion Colors * Adobe RGB, DCI-P3, sRGB, Rec. 709 Gamuts * Built-In USB 3.1 Gen 1 Hub | | |
| **(Monitor)** ***Peripheral Cost*** | $1,999 | | |
| **(External HDD) Peripheral** | External HDD | | |
| **(External HDD)**  Peripheral Manufacturer | HDD [G-Technology 4TB G-DRIVE with Thunderbolt 3 and USB-C Desktop External Hard Drive, Silver - 0G05363-1 : Electronics](https://www.amazon.com/G-Technology-G-DRIVE-Thunderbolt-Desktop-External/dp/B071RNNH52) | | |
| **(External HDD)**  Peripheral Model No. | **0G05363-1** | | |
| **(External HDD)**  Peripheral Features | * Dual Thunderbolt 3 ports and a single USB-C port with support for USB 3.1 Gen 1 * Daisy chaining for up to 5 additional devices * High-speed data transfers * Solid, all-aluminum case makes for durability and stylish looks * 7200 RPM | | |
| **(External HDD)**  ***Peripheral Cost*** | $457.38 | | |
| **Software** (purchase separately) | **Avid Perpetual License**  **$1,999.00** **Perpetual License with a 1-Year Software Updates + Support Plan (download)**  Buy it once and own it forever  Includes a 1-Year Software Updates + Support Plan, which provides access to all new releases and Standard support for one year, renewable annually | | |
| ***Software Cost*** | $1,999 | | |
| ***Total Cost*** | $6334.38 | $8964.38 | $52,414.58 |
| Websites (source) | * Budget –   + [HP Z2 G8 Tower Workstation Desktop PC (4A166UT#ABA)](https://www.hp.com/us-en/shop/pdp/hp-z2-g8-tower-workstation-desktop-pc-p-4a166ut-aba-1) * Mid-Range –   + [HP Z6 G4 Tower Workstation (7BG79UT#ABA)](https://www.hp.com/us-en/shop/pdp/hp-z6-g4-workstation-p-7bg79ut-aba-1) * Overkill –   + [Configure (hp.com)](https://www.hp.com/us-en/shop/ConfigureView?urlLangId=&catalogId=10051&langId=-1&storeId=10151&catEntryId=3074457345618619819&quantity=1) * Monitor – * [BenQ SW321C PhotoVue](https://www.techradar.com/reviews/benq-sw321c-photovue) * External HDD –   + [G-Technology 4TB G-DRIVE with Thunderbolt 3 and USB-C Desktop External Hard Drive, Silver - 0G05363-1 : Electronics](https://www.amazon.com/G-Technology-G-DRIVE-Thunderbolt-Desktop-External/dp/B071RNNH52) * Avid Media Composer –   + [Media Composer Perpetual License - Video Editing Software - Avid](https://shop.avid.com/ccrz__ProductDetails?rdp=1632957971019&sku=DYNAPAMC8)   + [Media Composer System Requirements (force.com)](https://avid.secure.force.com/pkb/articles/en_US/Compatibility/Media-Composer-System-Requirements) | | |

**Deliverable**

A word document report including all the required information.

# How I approached the project

First thing we need to do when approaching any problem is find out everything we know. Here is what we know…

* Avid Media Composer
* Monitor over 30”
* External Hard Drive

These are the things we need. Let’s focus on one at a time.

## Avid Media Composer

First, we can start with the Avid Media Composer. Since in the prompt it only states that she needs to run Avid Media Composer we can assume that she will be using this computer solely for the purpose of running the Media Composer. This means our specs for the computer can simply be based off the Avid Media Composer’s recommended systems requirement. Also, what’s great is that the other two needed things have nothing to do with what’s inside the computer. This means Avid Media Composer can solely determine our specs. Knowing this, all we must do is find out what Avid Media Computer needs… which is obviously very easy (search it up). Avid supports two OS, windows and MacOS, so bye Linux.

### Windows {the winner}

I will use {} for my comments {like this}

* **Computer:** [Avid-qualified Windows-based computer](http://avid.force.com/pkb/articles/en_US/compatibility/en422411) **{lol ez}**
* **Memory:** 16GB minimum, 32GB (or more) recommended **{budget}**
  + See [Feature Performance](http://avid.force.com/pkb/articles/en_US/compatibility/en365919) page for more info. **{more info}**
* [Windows OS Compatibility Grid](http://avid.force.com/pkb/articles/en_US/compatibility/en267087) **{we can troll with most expensive now}**
* **Additional Notes:**
  + Media Composer | Software requires a 64-bit Windows operating systems
  + Windows 10 Professional and Enterprise **{we choose}**
  + Windows 8.1 Professional and Enterprise **{no one cares}**
  + Windows 7 Professional (Service Pack 1 only) **{no one cares}**

Yeah… I found the Avid-qualified Windows-based computer in 5 minutes of searching. Welp that was easy. Now lets just pick one we “like.” So where is this list? It’s here [Windows CPU Specs. August 2021.pdf](https://avid.secure.force.com/pkb/servlet/fileField?retURL=%2Fpkb%2Farticles%2Fen_US%2Fcompatibility%2Fen422411&entityId=ka16e000000hkvBAAQ&field=Attachment_2__Body__s)

### MacOS {doesn’t have 30” monitors, basically no MacOS sorry}

Let’s do a MacOS one too because some people like using MacOS instead of Windows. I just need to search for some stuff bipity bop… poof. There.

* **Computer:** [Avid-qualified Apple computers](http://avid.force.com/pkb/articles/en_US/compatibility/en422411) **{yay}**
* **Memory:** 16GB minimum.  32 (or more) recommended. **{budget}**
* See [Feature Performance](http://avid.force.com/pkb/articles/en_US/compatibility/en365919) page for more info.
* [Mac OS Compatibility Grid](http://avid.force.com/pkb/articles/en_US/compatibility/en267087)
* **Additional Notes:**
* 12-core 2013 Mac Pro (Ivy Bridge 6,1 Cylinder) and dual 6-core Mac Pro (Westmere 5,1 tower) model CPU's on Mac OSX 10.10.x (Yosemite) have known performance issues with playback, render, and transcode of RED material. If possible, customers with these CPUs that use RED workflows should stay on Mac OS 10.9.5 as it does not exhibit the same performance issues. (**UPDATE**: This is fixed with the latest RED AMA plugin v1.16.5 and later)

**{^they tell us so much just to tell us that it’s been fixed…}**

OH NO! Apple computers don’t have 30” plus monitor… bye Apple

## Monitor

Now that we are done with the insides, we just need to pick a monitor and it has to be 30”. I simply searched up best monitor on the market and picked the result that best matched the requirements which was for video editing. The monitor I chose was best for video editing for its price. Basically it’s the best overall laptop.

## External Hard Drive

We need external hard drive to be 4TB and thunder bolt soooo… search stuff up again.